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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/462,341	04/13/2000	ERIC GORDON MAHERS	602-1466	4968
23644	7590	09/07/2005	EXAMINER	
BARNES & THORNBURG P.O. BOX 2786 CHICAGO, IL 60690-2786			SHAH, UTPAL D	
			ART UNIT	PAPER NUMBER
			2625	

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/462,341

Applicant(s)

MAHERS ET AL.

Examiner

Utpal D. Shah

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on RCE 04/08/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3 and 6-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 6-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 February 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 08, 2005 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1,3 and 6-11 rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 5,798,514 by Domanik in view of US patent 3,474,004 by Fink.

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In regards to claim 1, Domanik disclose a carrier device for use in an antibiotic susceptibility test ("AST"), the device releasably carrying an antibiotic related to the test (Figures 1-3; Column 1, Lines 10-16; Column 4, Lines 28-39), and bearing machine readable information concerning the antibiotic (Column 2, Lines 19-22), wherein the device also includes orientation means for enabling an image analyzer to determine an optimal reading direction of the readable information (Figures 1 and 2, teeth 40), the device is an AST disk (Figure 3, Component 60), wherein the orientation means comprises means other than said code (Figures 1 and 2. Teeth 40 (orientation means) define radial positions at which the information code is encoded.).

Domanik does not expressly disclose the machine readable information comprises a code of one or more letters and one or more numerals.

However, Fink discloses the machine readable information comprises a code of one or more letters and one or more numerals. (col. 5, line 5-9, Fink discloses that the Antibiotic Disk can be marked with code that contains symbols and numerals. The examiner interprets that the symbols can be letters.)

Domanik and Fink are combinable because they are from the same field of endeavor i.e. antibiotic testing. (col. 2, lines 17-22)

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Domanik with the teachings of Fink.

The motivation for doing so would have been to make quick visual evaluation. (col. 5, lines 7-9)

In regards to claim 3, Domanik and Fink disclose all the claimed limitations of claim 1, as discussed above in paragraph 4 and incorporated herein by the reference.

Domanik further discloses a device according to Claim 1, in which the orientation means is separate from said machine readable information (Figures 1 and 2. Teeth 40 arrangements are the orientation means comprising a tooth that serves as an index mark. The teeth arrangements or orientation means are different from the machine readable code.).

In regards to claim 6, Domanik and Fink disclose all the claimed limitations of claim 1, as discussed above in paragraph 4 and incorporated herein by the reference.

Domanik further discloses a device according to Claim 1, in which the orientation means comprises an arrangement of information presented on the device surface, in addition to the code (Figures 1 and 2; Column 2, Lines 9-28; Column 3, Lines 58-67, Column 4, Lines 1-25).

In regards to claim 7, Domanik and Fink disclose all the claimed limitations of claim 1, as discussed above in paragraph 4 and incorporated herein by the reference.

Domanik further discloses a device according to Claim 1, in which said orientation means comprises linearly-arranged information (Figures 1 and 2. The arrangement of teeth 40 which are linearly extended every 45° (not circumferentially)).

In regards to claim 8, Domanik and Fink disclose all the claimed limitations of claim 7, as discussed in paragraph above and incorporated herein by the reference.

Domanik further discloses a device according to Claim 7, wherein said linearly-arranged information is parallel to the optimal reading direction of the readable information (Column 2, Lines 13-23).

In regards to claim 11, Domanik and Fink disclose all the claimed limitations of claim 1, as discussed above in paragraph 4 and incorporated herein by the reference.

Domanik further discloses a device according to Claim 1, in which said code identifies said substance and/or its concentration (Column 2, Lines 19-22).

In regards to claim 9, Domanik and Fink disclose all the claimed limitations of claim 7, as discussed in above paragraph and incorporated herein by the reference.

Domanik does not disclose a device according to Claim 7, wherein said linearly-arranged information is a printed line or lines, printed below or above code.

Utilizing a printed line or lines, printed below or above a code as a linearly-arranged information for enabling an image analyzer to determine an optimal reading direction of the readable information is well known in the art (Official Notice).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Domanik's invention to include printed lines, printed below or above a code as a linearly-arranged information for enabling an image analyzer to determine an optimal reading direction of the readable information because

it is an standard fundamental procedure routinely implemented in image processing for identifying the direction of randomly oriented patterns or characters.

In regards to claim 10, arguments analogous to those presented for Claim 9 are applicable to Claim 10. An underline is a printed line below the code.

5. Claims 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Domanik (U.S. 5,798,514) and Fink (U.S. 3,474,004), as applied to claim 1, further in view of Perry (U.S. 3,757,299).

In regards to claim 12, Domanik and Fink disclose all the claimed limitations of claim 1, as discussed above in paragraph 4 and incorporated herein by the reference.

Domanik discloses an image analysis system for interpreting AST plates (Petri dish), each of which holds a plurality of devices each in accordance with Claim 1 (Column 3, Lines 6-11, machine code reader), the system comprising:

support means for supporting an AST plate (Even though it is not shown in Figure 3, Petri dish is intrinsically supported by a supporting means.);

image capturing means for imaging a plate supported by said support means (Column 4, Lines 54-58); and

electronic information processing means, linked to said image capturing means, programmed or trained to locate an AST disk on said plate from among the plurality of AST disks (Column 4, Lines 58-66),

identify orientation means on the located disks, and rotate the perceived image of the located disks as required so that the perceived image of a multi-character code printed on the device is brought into alignment with a proper reading direction for the code, and read the code (Column 4, Lines 62-67, Column 5, Lines 1-45). Arguments analogous to those presented for Claims 9 and 10 concerning optimal reading directions are applicable to Claim 12.

Domanik does not explicitly disclose a camera as the image capturing device.

Perry discloses an apparatus for measuring zones of inhibition in a biological assay comprising a camera for imaging a Petri dish (Figures 3, 5 and 18, Cameras 21, 42, 152 and 160).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Domanik's invention according to the teachings of Perry to utilize a camera for capturing image because it is an standard fundamental image capturing device routinely used in image processing.

In regards to claim 13, Domanik and Fink disclose all the claimed limitations of claim 12, as discussed above in paragraph 5 and incorporated herein by the reference.

Domanik further discloses an image analysis system according to Claim 12, which additionally determines the size of the zone of inhibition, if any, surrounding an AST disk (Column 1, Lines 17-30). Furthermore, Perry also discloses determining the size of the zone of inhibition, if any, surrounding an AST disk (Figures 1 and 2; Column 4, Lines 40-68, Column 3, Lines 1-12).



In regards to claim 14, Domanik and Fink disclose all the claimed limitations of claim 13, as discussed in paragraph above and incorporated herein by the reference.

Domanik further discloses an image analysis system according to Claim 13, wherein the electronic information processing means includes or is linked to an expert system comprising a database of AST characteristics of known micro-organisms (Column 4, Lines 4-60).

In regards to claim 15, Domanik and Fink disclose all the claimed limitations of claim 13, as discussed in paragraph above and incorporated herein by the reference.

Perry further discloses an image analysis system according to Claim 13 including display means for displaying an AST disk image (Figure 3, display 34).

In regards to claim 16, Domanik and Fink disclose all the claimed limitations of claim 13, as discussed in paragraph above and incorporated herein by the reference.

Perry further discloses an image analysis system according to Claim 13 wherein the diameter of the zone of inhibition is determined (Column 2, Lines 59-67, Column 3, Lines 1-4).

In regards to claim 17, arguments analogous to those presented for Claim 10 are applicable to Claim 17.

In regards to claim 18, arguments analogous to those presented for Claims 1, 9, 10 and 12 are applicable to Claim 18.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
  - a. US patent 4,220,417 by Sprott et al. discloses that a 'text code' to be a code of letter and numbers (col. 4, lines 39-46)
  - b. US patent 6,319,668 by Nova et al. discloses code to be made of letters and numbers (col. 37, lines 46-54)

### ***Contact Information***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Utpal D. Shah whose telephone number is 571-272-8568. The examiner can normally be reached on M-F (9 AM - 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Utpal Shah  
Art Unit - 2625



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